

## PATENT ABSTRACTS OF JAPAN

(11) Publication number : 02-034693  
(43) Date of publication of application : 05. 02. 1990

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(51) Int. Cl. C11D 3/22  
C11D 10/04

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(21) Application number : 63-183174 (71) Applicant : KAO CORP  
(22) Date of filing : 22. 07. 1988 (72) Inventor : YABE SHINICHI  
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(54) POWDERLY DETERGENT COMPOSITION FOR CLOTHING

(57) Abstract:

PURPOSE: To improve the rinsing properties by incorporating a higher fatty acid salt, a polyoxyethylene alkyl ether, and cyclodextrin into the title composition made of a synthetic anionic surface active agent as principal detergent base.

CONSTITUTION: The title composition made of a synthetic anionic surface active agent as principal detergent base comprises 1-6wt.% higher fatty acid salt preferably comprising, e.g., an alkali metal salt of an (un)saturated fatty acid having an average number of carbon atoms of 10 to 20; 0.5-6wt.% polyoxyethylene alkyl ether preferably comprising an 8-18C primary or secondary alcohol/ ethylene oxide (8-20mol on average) adduct; and 0.1-5wt.% cyclodextrin preferably comprising  $\beta$ -cyclodextrin.

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LEGAL STATUS

- [Date of request for examination]
- [Date of sending the examiner's decision of rejection]
- [Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]
- [Date of final disposal for application]
- [Patent number]
- [Date of registration]
- [Number of appeal against examiner's decision of rejection]
- [Date of requesting appeal against examiner's decision of rejection]
- [Date of extinction of right]

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CLAIMS

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(57) [Claim(s)]

[Claim 1] In the powder cleaning agent constituent for garments (a) which makes a synthetic anionic surface active agent the main washing basis Higher-fatty-acid salt 1 - 6 % of the weight (b) Polyoxyethylene (8-20 average addition mol of ethyleneoxide) alkyl ether 0.5 - 6 % of the weight, and (c) cyclodextrin Powder cleaning agent constituent for garments characterized by containing 0.1 - 5 % of the weight.

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**DETAILED DESCRIPTION**

[Detailed Description of the Invention]

[Industrial Application]

this invention relates to the powder cleaning agent constituent for garments with which rinsing nature was improved remarkably in detail about the powder cleaning agent constituent for garments.

[Description of the Prior Art]

Since foamability is demanded of the powder cleaning agent for garments in Japan, the anionic surface active agent has been conventionally used as a main surfactant. The spread of full automatic washing machines is remarkable in recent years. When the conventional high foamy detergent is used for a full automatic washing machine, a bubble may overflow at the time of wash. Moreover, although muddiness of rinsing liquid is checked by the eye in the case of the conventional washing machine and completion of rinsing is checked, since such a check is not carried out in the case of a full automatic washing machine, it is inside - low \*\*\*\*, and the good anion detergent of rinsing nature has been required.

In order to solve this technical problem, defoaming agents, such as silicone or soap, are blended with the present powder detergent. Although silicone is effective by little addition, since it is the problem of cost, and oiliness, there is a field which is [ spoil / powder physical properties ] hard to use, and soap is mainly used.

although soap shows the good \*\*\*\* effect -- the field of rinsing nature -- also \*\*\*\*\* (ing) -- enough -- \*\* -- it was not able to say

[The means for solving a technical problem]

That the above-mentioned problem should be solved, wholeheartedly, as a result of research, this invention persons found out that will rinse if a specific nonionic surface active agent and a specific cyclodextrin are used together and used with soap (higher-fatty-acid salt), and \*\*\*\*\* improvement of the sex was carried out, and completed this invention.

That is, this invention is set to the powder cleaning agent constituent for garments which makes a synthetic anionic surface active agent the main washing basis (a). Higher-fatty-acid salt 1 - 6 % of the weight (b) Polyoxyethylene (8-20 average addition mol of ethyleneoxide) alkyl ether 0.5 - 6 % of the weight, and (c) cyclodextrin The powder cleaning agent constituent for garments characterized by containing 0.1 - 5 % of the weight is offered.

as the higher-fatty-acid salt used for this invention -- the average carbon numbers 10-20 -- the saturation of 16-18 or the alkali-metal salt of unsaturated fatty acid is mentioned preferably \*\*\* rinsing effect with the loadings of the higher-fatty-acid salt in a cleaning agent constituent sufficient at less than 1 % of the weight is not acquired, and if 6 % of the weight is exceeded, the soap smell attached to wash clothing cannot be suppressed. Although there is an inclination which a soap smell attaches to wash clothing when a higher-fatty-acid salt is blended about 3% of the weight or more, since the cyclodextrin which has odor inclusion ability is used together, if it is to 6 % of the weight, with the cleaning agent constituent of the invention in this application, a soap smell can fully be suppressed.

As polyoxyethylene (8-20 ethyleneoxide average addition mol) alkyl ether of the (b) component used for

this invention, the nonionic surface active agent which made an average of 8-20 mols of ethyleneoxides add to the 1st class or the 2nd class alcohol of carbon numbers 8-18 is mentioned. The number of average addition mols of an ethyleneoxide rinses in less than eight mols, and if the sex improvement effect is scarce and exceeds 20 mols, it will produce un-arranging on detergent manufacture.

Polyoxyethylene (8-20 ethyleneoxide average addition mol) alkyl ether is blended 0.5 to 6% of the weight into the cleaning agent constituent of this invention. It rinses that loadings are less than 0.5 % of the weight, and \*\*\*\*\* will become bad, if the sexual improvement effect is scarce and exceeds 6 % of the weight.

As a cyclodextrin used for this invention, beta-cyclodextrin derivative like beta-cyclodextrin and a methylation beta-cyclodextrin, alpha-cyclodextrin, gamma-cyclodextrin, etc. are mentioned. beta-cyclodextrin is desirable above all. A cyclodextrin is preferably blended 1.0 to 3.0% of the weight 0.1 to 5% of the weight into the cleaning agent constituent of this invention. It is economically disadvantageous if a soap smell cannot fully be suppressed as the loadings of a cyclodextrin are less than 0.1 % of the weight, and 5 % of the weight is exceeded. A cyclodextrin can be corned and used with an extending agent, a binder, etc. as fine particles. In addition, even if it carries out the inclusion of the cyclodextrin and it uses liquid perfume, the purpose of this invention is attained enough and the direction which made such and was used can also expect the effect of soap smell masking.

Especially other detergent composition is limited in the cleaning agent constituent of this invention.

Although there is no \*\*, generally the detergent in Japan Alkylbenzene sulfonic-acid soda, 10 - 50 % of the weight of anionic surface active agents, such as alkyl-sulfuric-acid soda, olefin sulfonic-acid soda, and alkyl ether sodium sulfate, 30 - 80-% of the weight inorganic builders, such as sodium carbonate, silicate of soda, sodium sulfate, and a zeolite And although it consists of anti-redeposition agents, such as a polyethylene glycol and a carboxymethyl cellulose, a fluorescence color, an enzyme, and perfume and JI long-chain alkyl type quarternary ammonium salt is added in a percarbonate, fault boron acid chloride, and the flexible detergent with the bleaching detergent The cleaning agent constituent of this invention can also be considered as such combination.

#### [Example]

Although an example is given to below and this invention is explained to it, this invention is not limited to these examples.

In addition, the section in an example and % are weight criteria, respectively.

Example 1 Using the powder cleaning agent constituent of the following composition, it rinsed by the following method and the sex was evaluated.

A result is shown in Table -1.

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TECHNICAL FIELD

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**TECHNICAL PROBLEM**

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**[Description of the Prior Art]**

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**MEANS**

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[The means for solving a technical problem]

That the above-mentioned problem should be solved, wholeheartedly, as a result of research, this invention persons found out that will rinse if a specific nonionic surface active agent and a specific cyclodextrin are used together and used with soap (higher-fatty-acid salt), and \*\*\*\*\* improvement of the sex was carried out, and completed this invention.

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